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Notice of Allowability	Application No.	Applicant(s)	
	10/663,975	LYNCH ET AL.	
	Examiner	Art Unit	
	Hoang V. Nguyen	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 7 February 2005.
2. ☒ The allowed claim(s) is/are 1-46.
3. ☒ The drawings filed on 16 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |



**HOANG V. NGUYEN
PRIMARY EXAMINER**

Allowable Subject Matter

1. Claims 1-46 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, Sievenpiper et al (US 6,426,722 B1) discloses an antenna structure comprising a high impedance surface, the high impedance surface having a conductive plane and an array of conductive elements spaced from the conductive plane by a distance which is no greater 25% of a wavelength of an operating frequency of the antenna structure, the conductive plane having an opening therein; and an antenna driving element disposed adjacent the opening in the conductive plane, which driving element, in operation, excites the antenna structure by pumping RF energy through the opening in the conductive plane. Sievenpiper '722, however, fails to specifically teach that the antenna driving element being disposed adjacent the opening in the conductive plane and on a side of the conductive plane which is remote from the array of conductive elements.

Claims 2-6 and 12 are allowed for depending on claim 1.

Regarding claim 13, the structure of Sievenpiper would enable the method of making an antenna comprising the steps of providing a high impedance surface, the high impedance surface having a conductive plane and an array of conductive elements spaced from the conductive plane by a distance which is no greater 25% of a wavelength of an operating frequency of the antenna structure, the conductive plane having an opening therein; and disposing an antenna driving element adjacent the opening in the conductive plane. Sievenpiper, however, fails to specifically

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teach the step of disposing the antenna driving element on a side of the conductive plane which is remote from the array of conductive elements.

Claims 14-19 and 25 are allowed for depending on claim 13.

Regarding claim 26, Sievenpiper discloses an antenna structure comprising a high impedance surface, the high impedance surface having a conductive plane and an array of conductive elements spaced from the conductive plane by a distance which is no greater 25% of a wavelength of an operating frequency of the antenna structure. Sievenpiper, however, fails to further teach a waveguide opening therein; and a waveguide disposed adjacent the opening in the conductive plane, which waveguide, in operation, excites the antenna structure by pumping RF energy through the opening in the conductive plane.

Claims 27-35 are allowed for depending on claim 26.

Regarding claim 36, the structure of Sievenpiper would enable the method of making an antenna comprising the steps of providing a high impedance surface, the high impedance surface having a conductive plane and an array of conductive elements spaced from the conductive plane by a distance which is no greater 25% of a wavelength of an operating frequency of the antenna structure. Sievenpiper, however, fails to further teach that the conductive plane having a waveguide opening therein; and the step of disposing a waveguide adjacent the waveguide opening in the conductive plane.

Claims 37-46 are allowed for depending on claim 36.

Reasons for indicating allowable subject matter for claims 7-11 and 20-24 were provided in the previous Office action.

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3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang V. Nguyen whose telephone number is (571) 272-1825. The examiner can normally be reached on Mondays-Fridays from 9:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Nguyen can be reached on (571) 272-1825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hvn
2/22/05



HOANG V. NGUYEN
PRIMARY EXAMINER